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Introduction/Methodology

What's this report about?

The goal of this report is twofold – to show the impact of the Michael Lewis book *Flash Boys* on media mentions of high-frequency trading (HFT), and to illustrate the nature of that coverage through analysis of top organizations, top issues/events, and the top outlets and journalists found within that coverage.

What exactly is high-frequency trading?

Good question. Investopedia says high-frequency trading is a "trading platform that uses powerful computers to transact a large number of orders at very fast speeds. High-frequency trading uses complex algorithms to analyze multiple markets and execute orders based on market conditions. Typically, the traders with the fastest execution speeds will be more profitable than traders with slower execution speeds."



The book's main angle – that high-frequency trading is essentially a negative practice allowing some traders an unfair advantage in the market – was a constant theme in media coverage.

What media coverage did you use?

The report was limited to mentions of high-frequency trading in online news stories from major English daily newspaper sites in North America, major financial news websites and newswires, and major general news sites. Coverage was monitored and collected using the keyword "high frequency trading."

When exactly did you look at coverage?

Coverage was analyzed during the first half of 2014: January 1 to June 30, 2014.

Executive Summary

- Following the initial spike created by the book launch, mentions of high-frequency trading in the media per week were sustained into May and June as markets and organizations reacted.
- The "Flash Boys effect" on media coverage of HFT was so great that mentions of the practice jumped 440 per cent in total in the three months following its release.
- The book was the most-covered issue or event during the study period, and was discussed more than 350-per-cent more than June's Senate hearings into HFT.
- Goldman Sachs was the most-mentioned investment bank in coverage, and had the
 highest SOV of any investment bank in every month but January and June. It was
 followed by Barclays, which received most of its coverage in June when a lawsuit
 against it related to its HFT operations was brought by the New York Attorney
 General.
- HFT firm Virtu made headlines in early April after delaying its long-awaited Initial Public Offering just days following the book's release, leading many to speculate that the book influenced the firm's decision to delay.

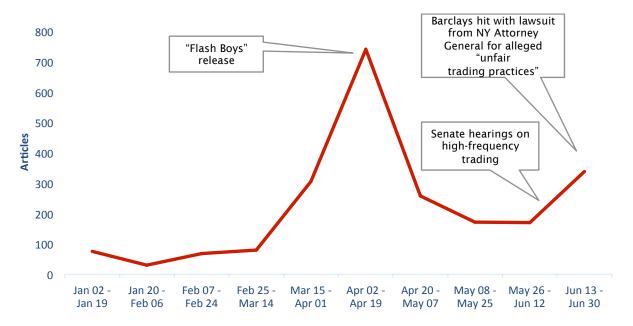
Mentions of HFT jumped 440 per cent in total in the three months following the book's release.

- Bloomberg was the top online outlet to run stories mentioning high-frequency trading, closely followed by CNBC and BusinessWeek. The Wall Street Journal was next, followed by Reuters.
- Bloomberg's Sam Mamudi was the top journalist to mention high-frequency trading in his coverage. His stories were typically published on Bloomberg.com and on BusinessWeek's website, along with the Washington Post.
- Dark pools/markets, which are unregulated markets controlled by individual banks, were very scarcely mentioned prior to April. But they ended up with the secondhighest share of voice overall, with mentions especially picking up in June in conjunction with the Barclays lawsuit.

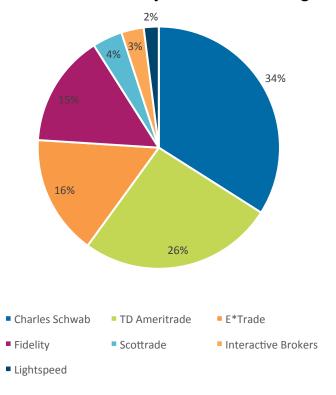
Total Articles: 2,414

Total Circulation: 5,189,474,170

Online articles mentioning "high frequency trading"

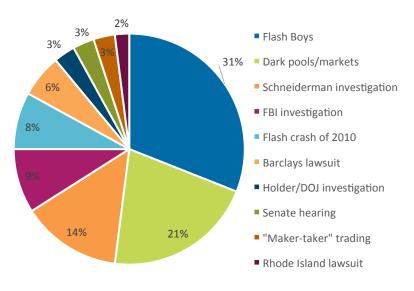


Share of voice - Major discount brokerages



- Following the initial spike created by the book launch, mentions of high-frequency trading in the media per week were sustained into May and June as markets and organizations reacted.
- The "Flash Boys effect" on media coverage of HFT was so great that mentions of HFT jumped 440 per cent in the three months following its release.
- Mentions of HFT took off again in late June, after the New York Attorney General slapped a lawsuit on UK-based Barclays for what he said was unfair practices surrounding its HFT techniques and company-run dark pool.
- The share of voice of major discount brokerages
 was led by Charles Schwab, followed by TD
 Ameritrade and E*Trade. Discount brokerages were
 typically mentioned as a tool used by "mom and
 pop investors" ("What Michael Lewis gets wrong
 about speed trading" in Businessweek (online), April
 1).
- Charles Schwab was mentioned most often because of statements made by Charles Schwab himself, the chairman of the firm, who called HFT a "growing cancer that needs to be addressed."

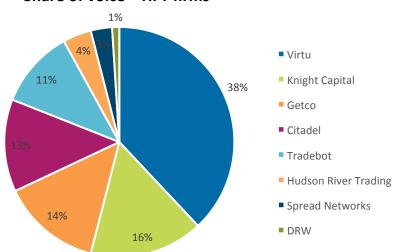
Share of voice – Notable issues/events



- The launch of "Flash Boys" was the mostcovered issue or event during the study period, and was discussed more than 350per-cent more than June's Senate hearings into HFT.
- Dark pools/markets, which are unregulated markets controlled by individual investment banks, had the second-highest share of voice, with mentions especially picking up in June in conjunction with the Barclays lawsuit.
- The various ongoing investigations into HFT by the NY Attorney General, the FBI, and the Department of Justice received prominent coverage during and following the book's release.
- The "Flash Crash" of 2010 was often referenced as an example of negative consequences of automated trading.
- The "maker-taker" trading model, which is related to HFT, was also referenced negatively -- especially after NYSE President Thomas Farley said it should be banned during June's Senate hearings.

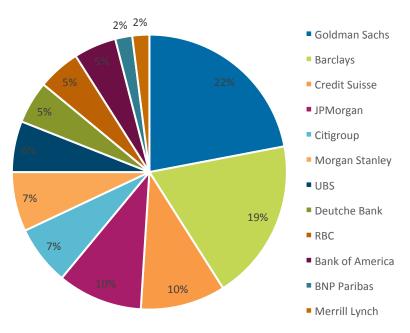
"A huge number of the (HFT) outfits he dealt with... no one had ever heard of, and the firms obviously intended to keep it this way." - Excerpt from Flash Boys

Share of voice – HFT firms



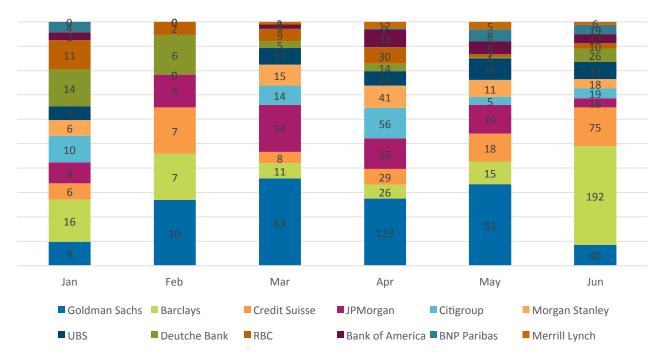
- While HFT firms aren't often mentioned in the media, companies mentioned in Flash Boys such as Getco, Citadel, Hudson River Trading and Spread Networks were singled out in online coverage.
- HFT firm Virtu, which had the largest share of voice by a considerable margin, made headlines in early April after delaying its longawaited Initial Public Offering just days following the book's release ("Virtu to indefinitely postpone IPO: report" in Atlanta Journal-Constitution (online), April 18), leading many to speculate that the book influenced the firm's decision to delay.

Share of voice - Investment Banks



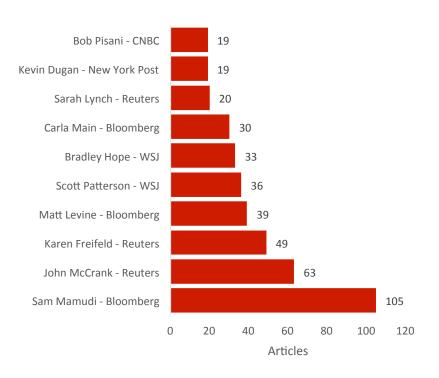
- Goldman Sachs was the mostmentioned investment bank in coverage, and had the highest SOV of any investment bank in every month but January and June.
- It was followed by Barclays, which received most of its coverage in June when a lawsuit against it related to its HFT operations was brought by the New York Attorney General.
- Most investment banks referenced in coverage were US-based, but were also from Switzerland (Credit Suisse, UBS), England (Barclays), Germany (Deutsche Bank), France (BNP Paribas) and Canada (RBC).
- The large majority of mentions of all investment banks relating to HFT were negative, simply due to the nature of coverage.

Share of voice - Investment Banks over time (by articles)

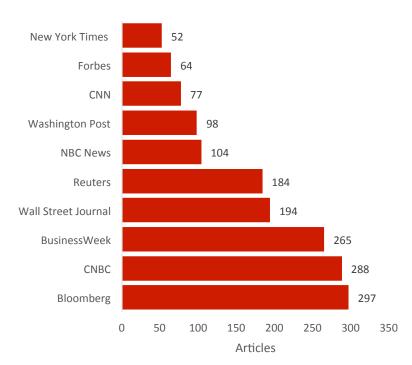


• The proportion of mentions of Goldman Sachs was highest in every month except January and June, when news broke that the New York Attorney General was launching a lawsuit against Barclays for what his office said are "unfair practices associated with its high-frequency trading techniques."

Top journalists



Top outlets

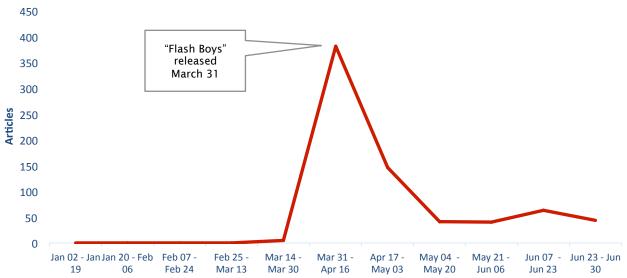


- Bloomberg's Sam Mamudi was the top journalist to mention highfrequency trading in his coverage.
 His stories were typically published on Bloomberg.com and on
 BusinessWeek's website, along with the Washington Post.
- Mr. Mamudi was followed by John McCrank and Karen Freifeld, both of Reuters.
- Mr. McCrank's high numbers were due to several syndicated stories that appeared in publications such as the Chicago Tribune and South Florida Sun-Sentinel, such as "IEX eyes stock exchange status as firms come knocking" (April 5) and "New York attorney general accuses Barclays of 'dark pool' fraud" (June 26).
- Ms. Freifeld's numbers were also high thanks to her stories being syndicated ("New York AG slaps Barclays with securities fraud suit" in the Chicago Tribune (online), June 25).
- Bloomberg was the top online outlet to run stories mentioning highfrequency trading, closely followed by CNBC and BusinessWeek. The Wall Street Journal was next, followed by Reuters.
- All of the top online outlets were national in scope. Honourable mentions go to the New York Post and Huffington Post, which didn't make the top ten but published 49 and 46 stories, respectively.

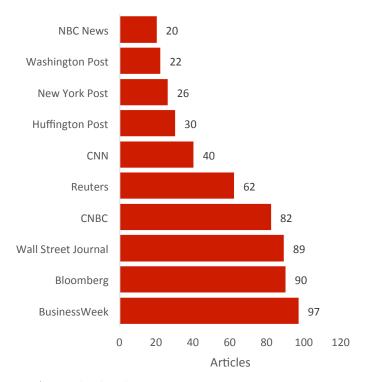
Total Articles: 810

Total Circulation: 1,783,731,467

Online articles mentioning "Flash Boys" *



Top outlets mentioning Flash Boys



* In articles that also mention "highfrequency trading"

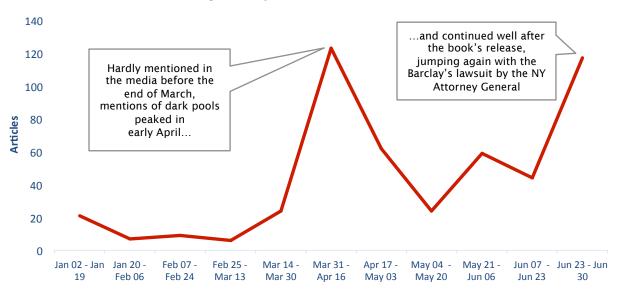
- The release of Flash Boys caused the single largest spike in coverage during the study period, and continued to be mentioned in follow-up coverage well into June. It also caused the largest spike of any news item related to HFT during the study period.
- The top publications mentioning Flash Boys were the same as the top five who covered high-frequency trading in general, although the order was slightly different, with BusinessWeek coming out on top.
- Mentions of Flash Boys jumped slightly during June's Senate hearings on HFT, mostly in relation to the book "sounding the alarm about a potentially rigged stock market system" ('Just 3 Senators have questions at hearing on flash trading" in Huffington Post, June 17).
- The book *Flash Boys* was discussed around 350-per-cent more than June's Senate hearings into HFT, which subpoenaed several well-known financial executives to testify.

Dark pools

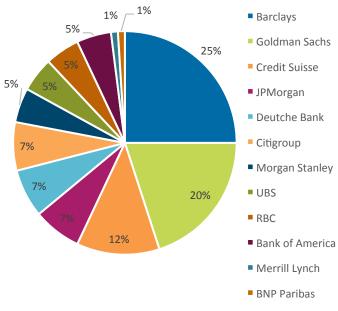
Total Articles: 535

Total Circulation: 220,916,500

Online articles mentioning "dark pools" *



SOV – Investment Banks (in stories mentioning dark pools)



A small spike in January was driven by a syndicated Reuters story on EU securities reform, which mentioned trading volume limitations on European dark markets ("EU reaches deal on sweeping securities

reform", Jan. 14).

- A secondary spike in late May/early June was mostly driven by coverage of proposed SEC rules for dark in late June can be attributed to the Barclays lawsuit its unregulated dark pool.
- This resulted in Barclay's being the most-mentioned investment bank in relation to dark pools.

- Dark pools or markets, which are unregulated financial marketplaces run by individual investment banks, were brought into the media limelight following the release of "Flash Boys".
- There was virtually no coverage of dark markets before the release, but mentions shot up 412 per cent between the middle and end of March.
- About a week after the book's release, it was reported that Goldman Sachs was considering shutting its pool.

pools, led by chairperson Mary Jo White. A final spike which specifically called out the firm's practices within

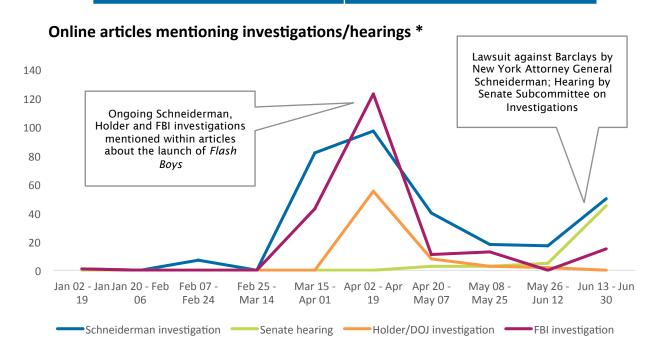
* In articles that also

mention "highfrequency trading"

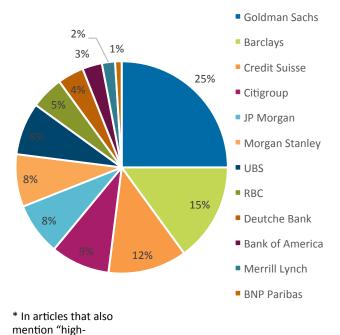
Investigations

Total Articles: 502

Total Circulation: 920,865,335



SOV – Investment Banks (in stories mentioning investigations)



- Ongoing investigations were barely mentioned before the lead-up to the Flash Boys release.
 Unlike the FBI and DOJ investigations, mentions of the NY Attorney General (Schneiderman) investigation persisted well into May thanks to news in early May about the New York Attorney General planning to subpoena to various exchanges ("New York Attorney General eyes exchanges in high frequency probe" in CNBC (online), May 2)).
- The "maker-taker" trading model was referenced mostly during Senate hearings in June, as some testifying financial executives stated the model should be outlawed "Stock exchange pricing model comes under fire at Senate hearing" in South Florida Sun-Sentinel (online), June 17).
- Goldman Sachs was once again the mostmentioned investment bank, this time in stories mentioning ongoing HFT investigations and hearings.
- There was a small bump in mentions of senate hearings around May 13, thanks to a one-day hearing about HFT.

frequency trading"



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